

# GRADIENT COIL AND METHOD FOR CONSTRUCTION

## Abstract

The disclosed apparatus relates to a gradient coil assembly for a magnetic resonance imaging system. The gradient coil assembly comprises: at least two coils. The coils comprise: at least one conductor mechanically bonded via a nonconducting substrate. The bonding surface of the at least one conductor has been subjected to a surface treatment to improve the mechanical bonding properties of the bonding surface. The disclosed apparatus also relates to a magnetic imaging system. The magnetic imaging system comprises: a system controller; a gradient amplifier unit in operable communication with the system controller; a magnetic assembly in operable communication with the gradient amplifier. The magnetic assembly comprises: a gradient coil assembly comprising at least two coils. The coils comprise: at least one conductor mechanically bonded via a nonconducting substrate. A bonding surface of the at least one conductor has been subjected to a surface treatment to improve the mechanical bonding properties of the bonding surface. The disclosed method relates to assembling

a gradient coil assembly. The method comprises: treating a bonding surface of at least one conductor; and bonding the at least one conductor to a nonconducting substrate.